

Estimation of particle size distributions for discrete radioactive particles						
References:						
1. M.J. Sula, 1980. Radiological Survey of Exposed Shorelines and Islands of the Columbia River between Vernita and the Snake River Confluence, PNL-3127						
2. A.T. Cooper and R.K. Woodruff, 1993. Investigation of Exposure Rates and Trace Metal Distributions Along the Hanford Reach of the Columbia River, PNL-8789						
3. M. Wendling, 1994. 100-D Island USRADS Radiological Surveys Preliminary Report						
4. J.S. Durham, Personal Communication to B.A Napier, 4 October 1994.						
"Fresh" Specific Activity		60000	uCi/mm <sup>3</sup>	(Ref 4)	(also Ref 2, pg. E.4)	
Note: Ref. 1 p. E.1 indicates that average particle diameter is about 0.1 mm						
Co-60 decay constant		0.131477	yr-1			
Assumed decay time	Sula	15	yr	Cooper	2	yr
Ref. 1 p.37	Ref. 2	Ref. 3	1994 decay			
1	16		2.23			
2	14		1.95			
3	1.7		0.24			
4	6.6		0.92			
5	23		3.2			
6	21		2.92			
7	9.9		1.38			
8	13		1.81			
9	12		1.67			
10	6.5		0.9			
11	2.5		0.35			
12	9.7		1.35			
13	1.7		0.24			
14	24		3.34			
15	16		12.3			
16	1.7		1.31			
17		2.3	2.3			
18		2.3	2.3			
19		4	4			
20		1.3	1.3			
21		1.2	1.2			
22		22	22			
23		2.2	2.2			
24		2.4	2.4			
25		0.28	0.28			
26		1.7	1.7			
27		1.9	1.9			
28		3.4	3.4			
29		4.1	4.1			
30		0.13	0.13			
31		0.66	0.66			
32		3.9	3.9			
33		2.7	2.7			
34		0.45	0.45			
35		1.9	1.9			
36		1.7	1.7			
37		1.1	1.1			

## CO60VAL

38		0.52	0.52										
39		0.98	0.98										
40		0.99	0.99										
41		1.5	1.5										
42		1.5	1.5										
43		1.2	1.2										
44		1.5	1.5										
45		1.7	1.7										
46		18.6	18.6										
47		3.3	3.3										
48		0.58	0.58										
49		1.1	1.1										
50		0.59	0.59										
51		2.6	2.6										
52		0.67	0.67										
53		2.6	2.6										
54		0.96	0.96										
55		0.41	0.41										
56		1.5	1.5										
57		4.04	4.04										
58		0.8	0.8										
59		0.78	0.78										
60		2.36	2.36										
61		0.5	0.5										
	sum	149											
	avg.	2.44											
	geo.mean	1.46											
	median	1.5											